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ABSTRACT

The papers in this document illustrate the need for educators to recognize the diverse populations they serve. Edmund W. Gordon and Stephanie Shipman discuss the confusion surrounding Aptitude/Treatment/Interaction (ATI) research and the educational equity controversy. They argue for educational programs which more appropriately address the problems of equity and social justice in education. Patricia Albjerg Graham discusses, from an historical and contemporary perspective, the dilemma faced by schools as they seek to adjust to new societal values about the role of women. She argues that if genuine progress toward adjusting schools and schooling to these new social norms is to be made, the selection and retention of more women in leadership roles in education are called for. Edward DeAvila suggests that a diagnostic/prescriptive procedure called PAPI (Program Assessment/Pupil Instruction) can overcome the problems in standardized testing by remaining sensitive to the needs of ethnically and linguistically different children who might be treated within a mainstream setting. Finally, Edgar Epps discusses some of the problems faced by social scientists, practitioners, and policy makers as they seek to adapt the public schools to the needs and demands of increasingly vocal and politically influential racial and ethnic constituencies. (EB)

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Educating Diverse Populations was a conference held at Teachers College, Columbia University, July 19-20, 1978, as part of the Thirty-Seventh Annual Superintendents Work Conference at Teachers College. It was sponsored jointly by the ERIC Clearinghouse on Urban Education, funded by the National Institute of Education; the General Assistance Center on Equal Educational Opportunity, funded by the Office of Education; and the Institute for Urban and Minority Education, Teachers College. The speakers were Edmund W. Gordon, Executive Director of the Institute for Urban and Minority Education, Director of the ERIC Clearinghouse on Urban Education, and Richard March Hoe Professor of Psychology and Education, Teachers College, Columbia University, New York, New York; Patricia Albjerg Graham, Director, National Institute of Education, Washington, D.C.; Edgar Epps, Marshall Field IV Professor of Urban Education, University of Chicago, Chicago, Illinois; and Edward DeAvila, Educational Consultant, DeAvila, Duncan and Associates, Inc., Larkspur, California.

The papers by Dr. Graham and Dr. Epps are printed here as presented at the conference. Dr. DeAvila's paper was originally published in *Mainstreaming and the Minority Child,* edited by Reginald Jones (Reston, Va.: The Council for Exceptional Children, 1976). The paper by Dr. Gordon and Ms. Shipman is based on Dr. Gordon's presentation at the conference as well as on a paper delivered by him at the American Psychological Association Convention in Toronto on August 31, 1978.

Human Diversity, Pedagogy, and Educational Equity

Edmund W. Gordon and Stephanie Shipman
Teachers College, Columbia University

The 1960s saw an enormous upsurge of interest in the concept of equal educational opportunity, particularly for ethnic minority group members, females, children of low-income families, and children for whom the standard English dialect is a second language system. Although the political pressures and momentum of the sixties have subsided somewhat, the concept of equality of opportunity continues to prevail. Educators' thinking about equality of opportunity has emphasized ethnic, language, sex and SES group membership. In an early expression of the concept, emphasis was given to alleged deficits in these groups as compared with a hypothesized norm—usually interpreted to be that of the white male English-speaking middle class. Political sensitivity led to a de-emphasis on deficits and disadvantages and an emphasis on differences. This concern for differences led to a renewed recognition that we are a society of pluralistic values and of diverse peoples and that these diverse peoples need to be served by the society with a greater degree of equity.

The equalization of educational opportunity—the achievement of a greater degree of equity (fairness, even-handedness, impartiality)—then is a central concern of educators today. However, the way in which this concern is conceptualized can have a great influence on the extent to which the concern is translated into programs and on the way programs ultimately address the problem that gave rise to the concern in the first place. That problem continues to plague us. It is manifested in the fact that in our democratic society, educational achievement seems to be irreversibly tied to ethnic caste status, to economic class status, to the status of one's proficiency in the standard English dialect, and to some extent to status imposed as a function of gender, or as a function of socialization.

The national problem posed by a concern with equity is that of making educational and social development, and ultimately social/political/economic participation and survival, independent of the backgrounds from which differential status group members come. It may be that this is the ultimate test of the viability of a democratic, diverse, and pluralistic society. Unfortunately, there are no ideal models that can be followed. The U.S.A. is the first society deliberately to set about creating a democratic nation from a population of diverse ethnic, national, racial, and religious groups. The society has alternatingly—and sometimes simultaneously—stressed either unitary or pluralistic standards and social justice to which education increasingly is expected to contribute.

We as educators must rise to the challenge by making a two-pronged effort. The first line of effort, and one prescribed by law, is to insure fairness, equality—"equal protection"—in the distribution of the nation's educational resources to ethnic, cultural, economic, geographic, language, religious, and sex groups as members of those groups present themselves for service from institutions serving the public. Since equity at this level means equal treatment, we face the problem of how to reduce or eliminate educational neglect of some subgroups in our population and the inequitable distribution of known treatments and available resources across the varied populations served by education, i.e., how to better enable our institutions of education to provide equal protection—equal service to all of their clientele. Solutions to this problem are most likely to take the form of changes in laws, regulations, policies, etc., which affect opportunity for access. These solutions may also involve changes in the organization and structure of educational service delivery systems; systemic changes in the agencies and institutions of education; and changes in the control and management of these systems. The goal is to make universally available the best the state provides to any particular segment of the population, with a high degree of consistency across subpopulations.

The second line of effort that educators must follow is as yet not so clearly defined in law. It involves fairness, equality—"equal protection"—in the distribution of resources in relation to such functional group characteristics as may be determined by mental/physical/social conditions, and as may be reflected in the processes by which learning behaviors and developmental choices are mediated. It is here that differences in language systems and their utilization come into focus, and that the law is increasingly interpreted to require that the design and content of the curriculum more appropriately reflect the functional (viz linguistic) characteristics of the learners. Recent legislation has brought the functional implications of language differences and handicapping conditions to the attention of educators. In both instances, the characteristic is used as a group marker to designate pupils who must receive special attention, but it is the way in which the characteristic is manifested in the learning behavior of the pupil (its functional characteristic) which should influence the nature of the special attention or educational service. It is here that the appropriateness of the learning situation is being brought under scrutiny to determine its relevance for these and other functional learner characteristics that require attention if a thorough and adequate education is to be provided.

Since equity at this level implies social justice—appropriateness and sufficiency of service to achieve some common criterion without limiting the privilege to exceed that standard—we face the problem of correcting inadequately developed treatments and insufficiently allocated resources to meet the differential requirements essential to the achievement of an agreed upon level of competence (thorough and adequate education). The problem posed here takes us beyond policy, regulation, management, budget, political, and economic considerations (but includes these) to a concern with the person-environment-situation interactions that determine outcomes. The concern here is with functional aspects of the institution, functional aspects of the learner, and needs of the human and nonhuman vectors in that ecological system. The problem involves analysis of, design of, and continuous involvement in the adjustment of institutions, people, and services. The goal is to make available to each that which is essential to the achievement of the criterion.

Turning back to the first line of effort, we see that the courts have quite adequately enunciated the problem in ruling that unequal access by subgroups of the population to the public educational resources of the state is unlawful. Educational institutions are thus required to stop the arbitrary segregation of pupils grouped by race or ethnicity; to end their failure to provide sufficient instruction to speakers of English as a second language; to end their failure to provide educational options and services for females that are as rich as those available to males; and to end their failure to deal adequately with students whom the schools view as disruptive or incompatible. In correcting conditions like these, what educators are doing is trying to change the validity of existing predictions by introducing correctives for the failures or errors of the system. This strategy is based on the assumption that much of what we currently deliver, or know how to deliver, might greatly improve the function of a majority of our pupils. What Bloom and Clarke, commenting from different perspectives, have suggested, is that we have targeted these efforts on too limited a number of pupils and often on selected groups of pupils. Bloom argues that generic interventions directed at correcting schooling errors seem to have the possibility for bringing as many as 80 percent of our pupils to the level of criterion mastery (1976, p. 5). As described, his corrective intervention involves the policy decision to allocate progressively more instructional time in relation to demonstrated difficulty with criterion mastery. As a starter, this strategy would insure that all pupils have exposure to that which we know how to deliver. This systemic change begins to acquire individual specificity as time of exposure is influenced by differential pupil need. Those pupils in need of greater exposure would receive it, in order to facilitate development as a corrective intervention or as an enrichment strategy.

The problems posed by differential pupil characteristics, conditions, needs, and response patterns led to the enunciation of Coleman's argument that school achievement should be made independent of the social conditions and prior social status of the group. Coleman was sensitive primarily to differences in social class and ethnic caste. In pursuit of solutions to these problems, we may have focused too sharply on their political dimensions and insufficiently on their pedagogical dimensions. It may be that, although ethnicity, SES, language, sex, and even geographic origin are important as group indicators for political purposes, they are too gross and possibly even irrelevant as functional indicators for purposes of pedagogical design and planning. For example, what does the fact that a child's skin is brown tell the school about the design of learning experiences for her, and even worse, what does that skin color variable tell the school about how a specific child goes about solving a problem in learning? Yet, large proportions of our investigations and efforts at curriculum adaptation have been directed at ethnicity as defined by skin color or at language identity as an indicator variable in planning and organizing school programs. Similar practices occur in relation to social class and gender. Now there may be aspects of biologic sex and there are certainly aspects of gender that have more or less direct implications for learning behavior and the design of learning experiences. Increasingly, however, the evidence mounts in support of the assertion that there are dimensions of human diversity with seemingly high relevance for pedagogy that may vary as much within language, ethnic, and class groups as between them. Cognitive style, interest, motivation, aspiration, temperament, and learning rate are but a few of these dimensions. They are not class or ethnic or language or sex group bound variables. Increasingly, even variables related to social practice—such as child-rearing practices, support for learning, and parents' aspirations for their children—are becoming so heterogeneous with respect to the indicator groups as to make ethnicity, SES, and occupational status less useful than they were once thought to be as indicators of the extent to which exposure to such practice is a part of the life experience of the children identified by these group labels. The evidence increasingly suggests that there exists wide variance in the character and quality of the learning behaviors that children bring to and develop in school. It also appears (although the evidence is less clear) that the conditions under which learning and development occur influence the quality of achievement as much as does the character of the learning behavior evidenced. If we grant the possible validity of these two assertions, it is possible to conclude that relationships between character of the learning behavior and character (length, nature, and appropriateness, for example) of the learning conditions may be of crucial importance as determinants of the quality of achievement. If this somewhat complex statement of a rather simple conception holds, it has critical significance for conceptualizing the central issue involved in planning adequate educational programs for children of diverse human characteristics and particularly those children who traditionally have been less well-served by our educational systems—those neglected, those discriminated against, those disadvantaged.

For more than a score of years the concept "equal educational opportunity" has dominated educators' thinking. The concept grew out of court litigations around issues related to ethnic segregation in public education and distributive inequality in resource allocation. As a result, the nation has affirmed its commitment to equality of educational opportunity for all and has translated this to mean equal access to the educational resources provided through public funds. But equal opportunity may not adequately reflect the implicit commitments of a democratic,

diverse, pluralistic, and humane society. If our commitment is to making educational and other achievements independent of ethnic group, social class, sex group, religious group and/or geographic group origins, a concept such as human diversity with social justice may be more worthy of our tradition.

Human diversity focuses our attention on those aspects of differences or variance in human characteristics that have relevance for pedagogical and developmental intervention. Social justice moves us beyond a concern for distributive equality to a concern for distributive sufficiency. When we speak of distributive sufficiency we are immediately forced to look to questions of need rather than of sharing. The functional educational question becomes, "What do the special characteristics of this person or group of persons require of the intervening process to enable this person to function with adequacy and satisfaction?" We are forced to ask not only what is essential but also what is sufficient to enable achievement. The answer to the question dictates the quality and the quantity of the educational intervention.

The intervention indicated by the answer to the question posed may violate our more narrow conception of equality —impartiality—but, given the compelling facts of human diversity, it may be the only way in which we can approach social justice. To honor, then, the implicit commitment to equality of opportunity we may be required to embrace a new commitment to the nuturance of human diversity in the pursuit of social justice.

Concern with human diversity is not new to educators. We have a long history of awareness of individual and group differences. Unfortunately, however, an examination of that history reveals that pedagogical concern for such differences has been far more obvious in our verbalizations than in our practice. Most teachers recognize that learners differ greatly in their learning relevant and learning non-relevant characteristics. Good teachers strive to make adjustments in the learning experiences of children they know to be unlike other learners. A sizeable body of research has developed around concerns for the individualization of instruction and the exploration of the potential of attribute-treatment-interactions. Yet the range of variance in curriculum design and instructional practice is far less rich than is the diversity to be found in the populations of learners available. There is only modest complementarity between the emerging knowing base referrable to functional and status human characteristics and knowledge concerning theories and technologies of curriculum development and pedagogy. The best developed of our programs of individualization tend to focus on single aspects of diversity, such as learning rate, interests, aspects of personality, or combinations of developed abilities, achievement and background experiences. Flannagan's Project Plan, a somewhat eclectic approach, Glaser's Individually Prescribed Instruction (based largely on differences in rate of learning), Goodland's efforts at matching pupils and teachers on dimensions of personality, and Klausmier's program of individualization based on differences in interests are examples of the more advanced work in individualized instruction.

Bloom has diverged from this trend and offers a more generic approach, i.e., increased and repeated exposure (time on relevant tasks) as likely to be more productive than further effort at having instruction match learner characteristics. His concept of mastery learning demands attention. Bloom has elaborated and implemented a notion first advanced by Carroll (1963). Carroll's model of school learning posits that while there are faster and slower learners, they do not differ significantly in their ability to learn, given time and appropriate learning experiences. That is, when slower learners attain the same level of achievement as faster learners, slower learners can learn, transfer and retain equally complex and abstract ideas. Benjamin Bloom, in *Human Characteristics and School Learning* (1976), has developed this idea further and come to the conclusion after several years of research that "most students become very similar with regard to learning ability, rate of learning, and motivation for further learning—when provided with favorable learning conditions." He rejects the idea that observed individual differences in school learning are fixed, in favor of the conception that much of this observed variation is man-made and accidental. Two lines of research are summarized to support this stance: 1) a large portion of variance in school achievement is accounted for by differences in home environment (Coleman, 1966; Plowden, 1967; Husen, 1967; Thorndike, 1973; Comber and Keeves, 1973; and Purves, 1973); and 2) what parents *do* in their interactions with their children is the major determinant of these characteristics rather than their socioeconomic status, level of education or other status characteristics (Bloom, 1964; Dave, 1963; Hanson, 1972; Wolf, 1966; Marjoribanks, 1974; Williams, 1974; and Mercer, 1973).

Bloom perceives the stability and, often, actual *broadening* of individual differences in achievement over the years (Bloom, 1964; Bracht and Hopkins, 1972; and Payne, 1963) as resulting from the stability of home and school processes and characteristics over the elementary and secondary school years. While it is the home that develops "language, the ability to learn from adults, and some of the qualities of need achievement, work habits, and attention to tasks which are basic to the work of the schools" (Bloom, 1976), the schools, in turn, type the child's "learning ability" first in reference to the skills and attitudes developed in the home, and later by the supposed advantage he/she has been able or willing to take of the resources of the school. (The latter, of course, presumes equal opportunity among pupils to profit from essentially the same instruction, without respect to entry characteristics.) On the basis of this commonplace compounding of diagnostic errors with non-equivalent experiences, Bloom asserts that the differences of importance are differences in learning, i.e., what and how one has learned, and rejects the notion that there are differences in learners. He sees capacity to learn as not differing significantly across learners when differences in learning have been appropriately addressed. The assertion follows that it is futile and irrelevant to talk about learning ability as distinct from learning history, especially as it is used to imply ceilings on future achievement. Rather, what is considered important and needed for explaining individual differences in school learning, and for providing "appropriate learning experiences," is a detailed description of the students' learning history as it pertains to their present capabilities and needs in a new or ongoing educational task.

Bloom's (1976) theory of school learning posits three interdependent variables whose variability will determine the nature of learning outcomes: level and type of prior achievement, affective interaction of learner and learning tasks, and match between learner and learning experience. "A) The extent to which the student has already learned the basic prerequisites to the learning to be accomplished; b) the extent to which the studen. is (or can be) motivated to engage in the learning process; and c) the extent to which the instruction to be given is appropriate to the learner" (p. 11). These are translated into three input variables for the learning task: cognitive entry characteristics, affective entry characteristics, and quality of instruction (the extent to which, especially, cues, practice and reinforcement are appropriate to the needs of the learner.) "The degree to which one of these variables is less than optimal will determine the level and type of learning achieved, the difficulties encountered in the learning process, the time and effort required to accomplish the learning that takes place, and the students' affect about the learning, the learning process, and the self" (p. 12). Thus, these variables are considered an economical current summary of the individual's learning history relevant to the proposed learning.

Bloom presents Mastery Learning as an ideal instructional model for adapting to these relevant individual differences. He claims that all of the versions of Mastery Learning presume that most students can attain a high level of learning capability if instruction is "sensitive and systematic, if students are helped when and where they have difficulties, if they are given sufficient time to achieve mastery, and if there is some clear criterion of what constitutes mastery." Bloom lists a number of instructional activities which seem to work. However, it is only the feedback and corrective systems of the four components of appropriateness of instruction to learner characteristics (cues or directions provided the learner, participation in a learning activity, reinforcement secured, and a feedback and corrective system) which have received the most attention and practical development. In most working models of Mastery Learning, the prime or sole entry characteristics of the learner considered for instruction are rate and level of past learning. "In general, we believe that the greater the variety of instructional materials and methods used within a classroom, the greater is the likelihood that each student will secure the ones he needs for his learning. What remains is to determine sounder procedures for relating individual differences in learners to differences in the way in which learners should encounter the cues" (p. 117). What is especially needed are studies where the rewards are related to individuals in the class, "since the frequency and variety of reward available to the class do not indicate anything about which students receive the reinforcements and what effect it has on their learning" (p. 121).

Thus, Bloom essentially concludes that, given the lack of clear-cut knowledge about the relationship of particular instructional variables to individual information processing, the best approach in schools at present is to provide group instruction through a variety of methods, monitor the process at short intervals, and prescribe correctives at the first sight of trouble. The central question he raised, however, is still as much at issue now as then: How do we determine the appropriate learning experience? What are the essential conditions of learning? These and other questions must be answered if we are to develop further his promising conception of quality of instruction as the fitness of the instructional mode to the students' educationally relevant characteristics, beyond sensitivity to learning rate and level of previous achievement.

With these exceptions plus a few other less well known examples, education seems to have taken little cognizance of the possible relevance of human diversity for pedagogy. It is not surprising that educators have made so little use of the learner characteristics knowledge base. Not only is that knowledge complex and contradictory, but the major recent efforts at systematizing, clarifying and interpreting the many related studies have provided little empirical basis for optimism and no guidelines for the application of this knowledge. Bracht's (1970) extensive review led him to conclude that the empirical evidence does not support the expectation that matching learner traits and learning experiences will result in significantly improved learning. After some twelve years of exploration and study, Cronbach and Snow go to great lengths in their most recent book (1977) to report the limited utility of the empirical evidence in support of and the complicated problems of aptitude/treatment/interactions (ATI) as an approach to the improvement of education. Yet, there continues to exist a persuasive logical relationship between learner characteristics (aptitudes), learning experience (treatments), and learning outcomes (interaction results). Several of us, including Cronbach and Snow (1977), J. McV. Hunt (1961), David Hunt (1975), Endler and Magnusson (1976), Glaser (1977) and Messick (1970), find it hard to dismiss the promise of the paradigm despite the missing evidence of its validity. The rather tenuous nature of the paradigm, however, does help explain why it is not more strongly represented in curriculum development.

Aptitude/Treatment/Interaction (ATI) research has been overwhelmingly *the* expression of concern regarding the importance of individual differences for learning and teaching. It is best characterized statistically as the comparison of the regression slopes of a variable from individual behavior onto an educational outcome variable under two or more contrasting educational treatments. Two kinds of interactions are defined by plotting the calculated slopes for the range of the ability measured on the same graph to describe *ordinal interactions* (one treatment is associated with significantly higher criterion scores than the other treatment for a section of the aptitude range, with an insignificant difference between the two treatments at another part of the range) and *disordinal interactions* (the slopes actually cross so that at one section of the aptitude range one treatment produces significant higher results, while the other treatment produces better results at a different part of the aptitude range).

Cronbach and Snow (1977) present a painstaking review of the research over the last decade attempting to discover interactions using this, and less powerful, statistical methods. They moderate Bracht's (1970) and others' conclusions denying evidence of meaningful ATIs with the observation that for the great majority of the studies they reviewed: 1) small sample sizes militated against respectable power in the statistical tests and encouraged chance effects, 2) person and treatment variables were paired speculatively without a sound theoretical background for

generating hypotheses, and 3) treatments were usually short, ill-defined or of an excessively unnaturalistic nature. Moreover, they point out that inconsistencies across "replications" are likely because of unanticipated interactions with variables which are considered too irrelevant to document and are therefore, unresearchable/unexaminable.

Why is the Aptitude/Treatment/Interaction knowledge base so confused? In a very provocative article, Messick (1970) suggests that one of the problems is that we are trying to tally up the score before we have learned the rules of the game. The interactions which have so far been studied are sometimes based on human traits for which the assessment technology is quite limited. They sometimes use treatments which may be too simplistic in their design and provide an insufficient complement to the trait under study. Our conceptions of the interactions studied are usually tied to methodological or programmatic constraints rather than based on comprehensive theoretical models.

One of the most serious problems with the ATI scoreboard approach is the assumption that studies using the same independent and dependent variables are examining the same interactions between independent variables. The crucial distinction is that A by T interactions are dynamic multiply determined events only partially describable or investigable by present statistical methods. Even recognizing that some factors may be more crucial than others in determining (or predicting) a particular behavioral event, the one-on-one independent and dependent variables model is inadequate to explain specific complex behaviors in complex partially controlled real-life situations/settings. The major problem in treating these studies as replications is that while we know that hundreds of factors affect school performance, the frequently overlapping interaction of identified factors/variables is not controlled or accounted for when meta-researchers compare studies.

When looking for main effects, generalizable, direct forces on behavior, it is legitimate to expect (and require) that the effect (or overwhelming force) should be operative in every instance which exemplifies the unhampered operation of that force/principle. On the other hand, when investigating interactions, i.e., the complicating or mediating influences of independent variables on each others' effects on dependent variables, the door is open to numerous *unmonitored* independent variables to affect either the action of the monitored variables or the mediating effects of their own interactions. This possibility of unmonitored variables in the research situation affecting observed interactions between monitored variables leads to what Snow (1977) called "locale specificity of effects" which, without further experimental controls on environmental factors, restricts our generalizations (concerning either main or interaction effects) to the particular sample studied.

Several situations can affect the results in this way: study samples, students, teachers, or classrooms can differ in their overall categorization on some dimension for which there is little or no variability within samples (i.e., classroom climate, teacher characteristics, neighborhood median income etc.); student characteristics can vary by extent of range, standard deviation, or by shape of distribution, let alone by their mean values (each of these affecting the likelihood of statistically significant results); and, perhaps most unfortunately, researchers may differ in their conceptions of and measurement of the variables presumably under their common investigation.

A basic limiting factor in ATI research is that it necessarily searches for techniques which produce flattened regression lines over the range of variability of concern. The model allows conclusions about interactions to be drawn only from comparing the slopes of simple regression lines, using one input and one outcome variable per comparison. Unfortunately, this glosses over some important sources of interactions. The model should be considered as a simple methodological application of the basic principle accepted by most educators: that if outcome variability is highly related to, and of a similar range as, input variability, then education has had little effect other than that of maintaining rank position from entry. Reducing the relationship between input and outcome variables reduces the caste character of achievement level and allows schooling a stronger influence, but it does not ensure optimization of school learning for the individual.

There are other factors which limit the usefulness of what we know about individual differences and the design of learning experiences. However, limitations on time force us to close this paper with the simple iteration of the following points:

1. ATI are far more complex than the study of them so far would indicate. Studies of these interactions have failed to take into account such factors as teacher/treatment interactions, the complexity of educational tasks as phenomena, the fact that tasks can be approached and solved with differing strategies and combinations of traits or that the traits may function differentially across subjects and situations.

2. A part of the complexity of which we speak is to be found in situational variance. Relatively little work has been done on characterizing environments and situations and their functional properties. In addition, a few of us are only beginning to talk about the interpenetration of ecologic, personologic and existential phenomena in situational variance. Environments, traits and treatments have their characteristics, but they also have their meanings. It is in part the neglect of the influence of situations and attributions that has impeded a better understanding of ATI.

3. When the phenomena under study are complicated by situational and attributional variance as well as by the dynamic interaction of many variables, traditional emphases on the isolation of main effects or even significant interactions seem inappropriate. Understanding ATI may require transactional analyses, but transactional relations make it difficult to determine just what should be investigated.

4. Psychological and scientific work in general are based on a search for general laws applicable across all instances; but in the behavioral sciences and education in particular, we don't know enough about the nature and function of the specific instances to generate laws with respect to how the larger constructs, of which they are a part, operate. We may be prematurely copying the hard sciences, as we try to bring comparable precision to our work, forgetting that those sciences developed over hundreds of years. During those developing years much time was devoted to the generation of descriptions and taxonomies. ATI may be in need of more description and taxonomy before we proceed with further tests of its validity and utility in education.

5. We have not yet developed appropriate categories and labels by which to study ATI. We tend to identify people by qualities such as SES, developed intellect, ethnicity, language and sex, rather than characterizing them by such functional characteristics as specific manifestations of cognitive style, temperament, motivation, and dynamic patterning which tells us much about how individuals approach certain tasks or respond to specific stimuli situations.

The problem of determining which status and functional characteristics have relevance for education lies at the heart of the ATI confusion and the educational equity controversy. Until we have better understanding of the nature and functions of those aspects of human diversity which interacting with specific treatments influence learning, we will make little progress in our understanding of the ATI paradigm. It may also be that such understanding will provide the foundation upon which we build educational programs which more appropriately address the problems of equity and social justice in education.

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Non-Sexist Education for Males and Females

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I am happy to be at Teachers College today with this group of school superintendents. For me this occasion culminates what has been a most instructive and fascinating month taken up largely with an extended visit to The Peoples Republic of China in the company of a group of distinguished American school practitioners including the Superintendents of Schools in Atlanta (Alonzo Crim), Dallas (Nolan Estes), New Orleans (Gene Geisert), Portland (Bob Blanchard), the Executive Director of the AASA (Paul Salmon), and the President of Teachers College, Lawrence Cremin.

As you can imagine, this was an extraordinary group with whom to visit China and its schools because of the telling questions the group asked. All of us were constantly inquiring: What do I see? What does this tell me about the educational program? What are the directions which would provide improvement here?

But for me the most important question which emerged during two and one-half weeks of travel in China was: What is the relationship between the schools and the society?

This question is of course familiar to those of us who spent time at Teachers College in the thirties, forties and fifties, and I would argue it is still the vital question to ask of an educational system anywhere. To what extent does the educational system find itself reflecting the values of the society (emphasizing some more than others), or as George Counts asked in 1933, to what extent do the schools lead in changing the social order?

The relationship between the values of the society and those of the educational system is complex, a complexity that is reduced somewhat when there is clear agreement on what the values of society are. Then, at least, the schools know their task and can concentrate on how to achieve it.

In China at the moment there is ambiguity about the goals of society, an ambiguity best expressed in the tension between "red" and "expert." Fundamentally, the problem is well exemplified in the question of how Chinese society can develop its scientific and technological talent while maintaining its commitments to the principles of its socialism and its revolution and to the collective welfare of its people. These tenets hold that if all Chinese are to share the benefits of the society, then all must contribute to them. The assumption has been loosely made in China that contributions should not be either broadly differentiated or compensated. Thus, manual labor has been expected of all, and elitism of the sort occasionally found among intellectuals and in universities, widely discouraged. Unfortunately, such policy minimized opportunities for young scientists and technicians.

Recently the emphasis in the society has changed; the new policy recognizes the importance of developing and nurturing scientists and technical talent so as to help China modernize and assume a major role as a leading industrial nation. Once the policy for the society shifts, the issue becomes: How do the educational institutions change their activities to implement this modification in social policy? That is the question China is facing today.

Why this discussion about China? First, because it is on my mind and still a vivid experience for me. But, more important, I believe that the sharpness of the Chinese example of a shifting social policy requiring modification in educational activities is illustrative for America.

Certainly by far the most important thing to say is that our two societies are vastly different: the Chinese prize the collective while we in the U.S. value individualism.

The similarity, however, is that both societies expect their educational systems to transmit and to affirm the values the society holds dear. When there is widespread acceptance of goals in the society, then it is easier for the school system to make the transmission effective. When there is disagreement, the problem becomes more complex. When the values of the society are changing, then the task of educational institutions is complicated indeed. The educational system must both identify new values and find ways of reflecting them in educational institutions.

The fact is that we are in such a period of transition in the U.S. now regarding the appropriate role of women in our society. Not surprisingly, our educational institutions are coping—often valiantly—with the dilemma of expressing these new values, whatever they may be, within the educational system.

To understand the dilemma faced by schools as they seek to adjust to new societal values about the role of women, it is, I think, necessary to trace some of the history of American attitudes toward "woman's place."

Perhaps the principal shift in expectations for women in the years from 1920 to 1960 has been toward uniformity, toward a universal standard by which all women would be judged. The broader standard that accepted spinsters, mothers and nursemaids and housekeepers, and women doctors as viable choices for women, narrowed perceptibly in the middle part of the twentieth century. The attitudes toward women are indicative of a broader move afoot in America during those years toward a common cultural standard. The roots of such efforts lie undoubtedly in the Americanization campaigns of the early years of the cen-

tury that reached their flowering during the years of World War II.

By the late 1920s and 1930s a common cultural standard was emerging. Class differences were being minimized as both the lower and upper classes gravitated toward the attitudes and beliefs associated with the middle class. Regionalism played less of a role in American life; accents, except for southern ones, began to disappear from American speech. Even ethnic differences were reduced as Jews anglicized their names and Slavs and Scandinavians dropped syllables and unwieldly consonants from theirs.

The peak of this cultural homogenization probably occurred during World War II when the common experience of military service—much more widespread for American men than in World War I—brought together Irish-Americans from Boston and Hoosier Protestants. Even the traditional distinctions between officer and enlisted men blurred during World War II under the pressure of mass mobilization.

By 1950, listening to national network radio was a universal experience for Americans, and comparable adventures on television were approaching. The proportion of rural population was dropping steadily, having fallen below 50 percent in 1920. In short, nearly every American lived in an urban setting, whether it was town, suburb, or city. Information reached them via national magazines, networks, and wire services. The big purveyors of information and taste were getting larger, and the small ones were dropping by the wayside.

The homogenization of American culture had become so noticeable that by the early fifties Will Herberg and others were arguing for cultural pluralism as an antidote to the monotony of American life. Such a call won few listeners in that decade, and not until the sixties did it find adherents. The first to respond were the blacks, who adopted the black power slogan as a renunciation of the assimilationist tendencies of the earlier Negro leadership. Later the ethnics emerged. Finally, came women, whose situation was even more complicated as they attempted to sort out feminist issues along lines of class, race, religion, and ethnicity.

The feminine ideal—as opposed to the feminist one—that won such wide support in the early and middle years of the twentieth century was a constellation of virtues: youth, appearance, acquiescence, and domesticity. Every woman was supposed to enhance her youth and her appearance and to foster her natural predilection for acquiescence and domesticity. The parallel between these qualities and those accepted as the female virtues a century earlier (piety, purity, submissiveness, and domesticity) is remarkable, and points to the legitimacy in many minds of the persistence of these qualities as natural or "divinely right."

Piety was not important for the secular, twentieth century woman. Neither was purity, particulary before marriage. For many Americans the fabled emancipation of women in the twentieth century amounted to a rejection of those two nineteenth century virtues and adoption of the twentieth century one, acquiescence. Finally, the eternal theme of domesticity recurred. The American woman of the mid-twentieth century was to be young, beautiful, ardent on demand, and to find happiness in her home. Many found that combination difficult.

Unlike the nineteenth century prescriptive behaviors for women, the twentieth century ones were not in conflict with college attendance. In fact, undergraduate study was either consistent with them or irrelevant to them. To be an undergraduate became proper youthful behavior for a young woman, and her appearance was not harmed by such a step. The posture of a student should be acquiescent, not assertive, and college was frequently considered the ideal place to meet the one with whom the domestic life would be shared. A woman reporter on the *New York Times* described the college girl in 1962:

> After four years of studying everything from ancient art to modern psychology, the average college girl views her future through a wedding band. Despite compelling evidence that she will be working at 35, by choice or necessity, today's 21-year-old woman has difficulty looking beyond the ceremonies of her own marriage and her babies' christenings.

The challenge of the women's movement of the last decade brought profound changes to what society believes is appropriate. Certainly, one cannot imagine a similar account in today's *New York Times* describing the current scene.

Most of us have seen the changes in our families.

There is no longer easy acceptance that woman's place is primarily in the home and only peripherally in the paid work force. The fact is that the percentage of women in the total work force has increased from 25.4 in 1940 to 33.3 in 1960 to 45.0 in 1976. Similarly, while only 8.6 percent of the women in the work force in 1940 were mothers, 45.7 percent of working women in 1976 were mothers.

A consequence of our commitment to individualism, as opposed to collectivism, is that a woman has the "right" to personal development beyond that determined by her family obligations—whether those obligations be those of daughters, wives, mothers or lovers.

We, as a society, of course, have not reached unanimity on what the proper role of women is. Most of us find such discussions difficult, if not painful, because such matters challenge fundamental assumptions we have made about ourselves and our lives.

More important for my thesis here, because we are lacking complete agreement in the society, we find it very difficult to translate these new social attitudes to our schools as ways of inculcating these new values to the younger generation.

But a consensus does seem to be emerging in at least three areas, and in these the schools find the implementation less difficult.

There is, I think, general agreement that:

1. Girls should be provided with the same curriculum as boys, and, in particular, should be encouraged to study those subjects in which previously they were discouraged, either implicitly or explicitly, namely math and science.

2. Vocational horizons for girls should be broadened beyond typical "women's jobs."

3. There is now wide agreement that women should be included in far greater numbers in the ranks of those who serve as the administrators of the nation's school systems. This is true partly because of a national consensus that talent in our society should be used no matter what the socioeconomic or racial background or gender of the talented and the further recognition that in school ad-

ministration it has most often been only the talent of the white male which has been widely utilized. In addition, however, to our society's increasing demand for merit selection for positions of leadership, many also believe that if women and minorities are to be encouraged to train themselves for positions of leadership, they must have before them examples of outstanding achievement by adults of their own race and sex. The number of women role models engaged in the administration of elementary and secondary schools is, as it is in college teaching and administering, still woefully low. I think we are all in agreement that our record must be improved here.

I, and I am sure all of you, have seen a great deal of activity during the past five years especially as the schools and colleges attempt to address these changes in attitudes. At the National Institute of Education we have undertaken a variety of projects toward this end.

We have funded a national PBS television series, "Project Freestyle," for children and parents, with supporting materials, designed to expand career awareness by reducing sex role stereotyping. "Freestyle" suggests that neither girls nor boys have to be constrained in their behavior by roles that have typically been associated with a particular sex. Girls will be encouraged to feel comfortable about acquiring managerial and mechanical skills, developing leadership responsibilities, and supervising their own financial affairs. Boys will be encouraged to share their emotions and display affection without fearing loss of masculinity. "Freestyle" will remind everyone that the roles of women and men as workers and family members are changing in ways that can lead to richer and more fulfilling lives. In addition, the series explores the impact of sex-role stereotyping on ethnic minorities.

We have also begun an Experimental Program for Opportunities in Advanced Study and Research in Education —Emphasizing Increased Participation of Women and Minorities in Educational Research. The central purpose of this grants program is to strengthen the quality, relevance, and credibility of educational research through greater inclusion of the contributions and perspectives of women and members of minority groups that historically have been underrepresented in this field. The program is to be conducted in an experimental mode, in order to seek out and demonstrate more effective ways of increasing and strengthening the participation of minority persons and women in the field of educational research by removing barriers to their participation. The program will support a variety of projects that create opportunities for advanced study and research on significant problems in the field of education, emphasizing such opportunities for minorities and women. Special priority is given of demonstrating ways of enhancing participation in educational research by minorities and women who already have acquired expertise or experience that is pertinent to educational research but who are underutilized or not regularly employed in doing such work.

In addition, one of the four sections of a new Equity Grants Program relates to "barriers to women's educational equity." Topics of interest include the social, psychological, and economic processes that inhibit educational equity; special educational and occupational needs of minority women; educational leadership and achievement among women; sex differences in cognition; and dissemination of research results and liaison with other special constituencies.

We have sponsored conferences to set research agendas that focus on the needs and concerns of minority women. In 1976 and 1977 conferences for black, Hispanic and Asian-Pacific Island, and Native American women were held. In 1978 a conference for white ethnic women will be held. Followup activities include the preparation and distribution of conference papers and proceedings.

We have supported the National Commission on Working Women which actively promotes and improves the conditions of working women, especially the 80 percent of America's working women concentrated in jobs at the low end of the pay scale in service industries, clerical occupations, retail stores, and factories.

We are funding a study of a competency based program that provides a Child Development Associate (CDA) credential. The CDA credential is used, mainly by women in low income areas, to gain employment in day care and Head Start programs. The NIE-funded study will look at whether a particular approach to provide a CDA credential is valid in terms of the work for which it was designed and whether the holding of a CDA credential is helpful in the career development of low income women.

In the area of women and mathematics, we are sponsoring ten research grants to explore the major positive and negative factors influencing women's decisions to study mathematics in grades seven through twelve at institutions such as Johns Hopkins University, Stanford Research Institute, and the Educational Commission of the States in Colorado. Among these studies is one that addresses the shibboleth that "nice girls don't study mathematics." This study, being performed at the Institute for Research in Social Problems, in Boulder, proceeds on the assumption that sociocultural factors shape women's attitudes toward and, in turn, their performance in mathematics. The study's objectives are to determine the ages at which females are most influenced by cultural stereotypes related to mathematics and to document the specific effects of parents, peers, and the educational setting in influencing a female's choices about mathematics.

A second study in this area, being carried out by ABT Associates, is a longisectional study of why women avoid the study of mathematics. Its objectives are to define the cluster of cognitive and social/emotional variables that turn women toward or away from the study of mathematics and to trace the development of their decisions to avoid or participate in this important area. Another of these grants, to Johns Hopkins University, is a study investigating the effect of three different programs administered to high ability girls in grade seven. The three programs are: a career awareness class for girls, a summer accelerated mathematics program for girls, and a school-system-based accelerated mathematics program for boys and girls. These programs are studied for their impact on later enrollment in mathematics and on attitudes in mathematics in grades ten, eleven, and twelve. Each program is tested using control groups of boys and girls of high ability. A fourth of these studies, at the State University of New York, focuses on the relationship of specific visual-spatial skills to specific types of mathematics reasoning, problem-solving, and achievement; the relationship of sex role attitudes and sex role conformity to the

development of specific types of visual-spatial skills, including the differential effects of training on boys and girls, and the effects of training on performance in mathematics.

Two other studies in this set, one at the Educational Commission of the States and the other at the American Institutes of Research, are concerned with broad assessment of the reasons for and consequences of women's lower participation in mathematics. A national assessment of performance and participation of women in mathematics will identify cognitive, affective, and social variables that have led to women's lower participation and achievement in mathematics and explore hypotheses about these variables that could be useful in developing policy. The second of these looks at the long-term career consequences of sex differences in the amount of high school mathematics studied. Since the lack of instruction and resulting lack of development of skill in mathematics has been identified as one of the severest constraints on the range of occupational choices available to women, this study investigates the role of mathematics in women's career development.

Thus in all three areas where there seems to be consensus about new roles for women and girls in schooling, we are making attempts to help practitioners. There are, of course, many more areas where there is considerably less certainty about what the new role of women should be and what the schools should do. None of us is unaware of those in the society who believe that "things have gone too far" or that "the woman's place is in the home," but few, even of these types, argue against merit appointments, equal educational opportunity, or the validity of women competing for jobs in areas that have been traditionally thought to be closed.

I believe that, in fact, if we are to make genuine progress toward adjusting schools and schooling to these new social norms, then one of the most important goals we will have to work toward is the selection and retention of more women in key positions of leadership in education. I believe this to be true not only because it is just—women with equal experience and education ought to be equally eligible for placement and ought not to have to be more qualified and more experienced as has often been the case in the past—but also because the examples of these women can have an enormous effect both because of their increased sensitivity to bringing about true educational equity in the schoolhouse and because their example can inspire future generations of women to train themselves for leadership roles in education.

Mainstreaming Ethnically and Linguistically Different Children: An Exercise in Paradox or a New Approach?

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In a memorandum dated May 25, 1971, Stanley Pottinger, then Director of the U.S. Office for Civil Rights, put virtually every school district in the United States on notice that the use of student assessment and assignment procedures which were based on "criteria which essentially measure or evaluate English language skills" would be seen as a violation of the Civil Rights Act of 1964. With this simple phrase the U.S. Office brought to the surface a controversy which has been growing over the past half century. More importantly, what the May 25 memorandum did was to vouchsafe a rash of lawsuits in which schools have been enjoined by the courts to refrain from the use of testing procedures shown to be discriminatory to minority children. Specifically, this means that to use most of the conventional tests and testing procedures for purposes of "special placement" is to risk legal entanglements in the courts as well as the forfeiture of federal funds through a lack of compliance with civil rights regulations.

The ramifications of the issues surrounding the use of IQ and similarly constructed tests have been felt in virtually every area of the social sciences: the wholesale admission that currently available tests are culturally biased invalidates not only school placement practices but brings into question past research in which minority children have been shown to be deficient across a broad range of affective and cognitive dimensions. Further still, the legal decisions concerning the use of tests have elicited the attention of the academic community such that investigators working in the areas of child development (Elkind, 1972), statistical models of cognition (McNemar, 1975), and test construction (Cronbach, 1975) have recognized the problem. Perhaps the most important implication from a practical point of view is to be found in the recent use of "mainstreaming" as an alternative to more traditional methods of dealing with culturally and linguistically different children found to be different by virtue of their performance on tests which were standardized on the majority population.

Mainstreaming typically refers to the process of attempting to meet the special educational needs of atypical children within the context of the regular classroom setting. For the child for whom English is not the home language, there are special considerations and, at a superficial level, one is tempted to conclude that these children are "so different" that mainstreaming is at best paradoxical and consequently represents no change in the status quo.

In the following pages, we would like to describe an approach which we have been investigating for the past few years which attempts to meet the special needs of children for whom English is not the home language. However, the solutions to many of the problems involved on currently available procedures rest on a thorough understanding of the exact nature of these problems. Therefore, before going on to describe our work, let us examine some of the problems underlying many of the currently used tests.

The first step in creating special programs for children rests on the process of identification. Normally this process is dealt with through the use of standardized tests. The problems underlying currently available tests as they are used with minority children may be discussed according to (a) validity and (b) utility.

Validity of Tests

Children for whom English is a second language have several problems which militate not only against the use of current tests but also against attempts to adapt or translate the tests. Consider the issue of translation.

Translation Problems

First, it is virtually impossible to use a single translation across different geographic locations because there are significant differences in dialect. Similarly there are important differences among various Spanish speaking groups according to country of origin. For example, the word "kite" may be translated as *cometa, huila, volantin, papalote,* or *chiringa*, depending on country of origin. Also because of regional variations it becomes virtually impossible to anticipate which word or translation will be suitable for which subgroup. The problem is further compounded by the fact that while the same word may be common to two regions of the country it may have radically different meaning in each region. For example, while the word *tostone* refers to a quarter or a half dollar for a Chicano child, to a Puerto Rican it refers to a squashed section of banana which has been fried.

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A second related erroneous assumption implicit in the use of translated tests is that non-English speaking children speak one language exclusively. This leads to monolingual translations which in many cases are not related to the actual spoken language. Mixed Spanish and English has been referred to as "pocho," "pidgin," or "tex-mex." A further assumption is that because a given language is the spoken language it is also the written language. One finds many examples of tests written in Spanish given to Chicano children who may speak Spanish but who have had absolutely no prior instruction in reading Spanish.

It is a rather pitiful commentary on this point that the California State Department of Education spent approximately $100,000 testing Chicano children throughout the state with the Inter-American Series, a test originally developed on a Puerto Rican population sample. The Chicano children did even more poorly on the Spanish test than they did when tested with the admittedly unfair English test (Chandler & Plakos, Note 1).

Another problem in translating tests is that words in one language have frequencies and potencies which generally cannot be compensated for in a direct translation to a second language. In other words, having a cognate is no guarantee that it is used in the first language. For example, the word "pet" is a common word in English, yet its Spanish cognate, *mascota*, or *animal domestico*, is almost never used.

A related problem in this context has to do with the fact that translating a word from one language to another can vastly alter its meaning. Thus, there are many seemingly harmless English words which translate into Spanish swear words or *palabras verdes*. Translating a "large egg" into a *huevon* may satisfy grammatical requirements and seem harmless to an Anglo translator; nevertheless it fails to consider that portion of the word's meaning which "does not translate."

Finally, straightforward or literal translations of existing tests represent a complete denial of cultural differences. In many cases this leads not only to unfair tests but to tests which require children to break from their own cultural tradition.

Cultural Contradictions

A testing situation represents a social interaction embedded within a cultural context which in turn carries a series of expectations as to the relationship between the child and the test. However, there is no guarantee that the culture of the child will contain the culture embedded in the test situation. For instance, one can understand a Latin American child's reluctance to guess at an answer to a test question when she/he has been reared within a tradition which disapproves of this type of *hablando sin saber* (speaking without knowing). In the testing context, this leads to a rather maladaptive showing. Similarly, children who come from poor homes with large families are often unaccustomed to the special attention which characteristically goes with testing. In fact, our experience has been that many children (particularly minority children) tend to be extremely fearful when taken out of classes for testing. They seem to get the impression that they are about to be punished for some undefined transgression. In support of the hypothesis that poorer children tend to have less verbal interaction with adults, Tulkin (1973) observed that white middle-class mothers engage in reciprocal verbal interaction with their children more often than do working class mothers of children.

Utility of Tests

Much of the controversy surrounding intelligence tests and minority children focuses on whether the IQ model is a valid one. A more practical and less abstract issue which needs to be answered concerns the general utility of the information produced by the test, i.e., what can persons do with the information once they have it? In order to answer this question we must consider who is asking the question and for what purpose.

It should be apparent that there are qualitative differences in the type of information needed within various levels of the educational system. These differences depend on the uses to be made of the information. To a large extent, much of the confusion surrounding the issue of whether or not to test stems from a failure to consider those differences. A consideration of a number of qualitative differences may lend some clarity to the general controversy as well as serve to introduce a procedure that attempts to meet some of the idiosyncratic needs of each.

Levels of Need for Testing

There are three general levels of organization within the educational system that require information traditionally obtained through testing. These three may be described as (a) the funding level which involves educational agencies supraordinate to the local school districts, (b) the local level which includes district personnel and building principals and (c) classroom teachers, paraprofessionals, and parents. Whether or not the information provided through traditional testing can serve any ultimately useful function depends on the particular and peculiar needs of each of these three groups. It is unfortunate that historically all three have attempted to use IQ scores for radically different and often conflicting purposes.

Consider first the supraordinate funding agencies such as state and federal departments of education. For purposes of determining the allocation of funds, these agencies require information concerning educational and program needs at the school district level. Since one source of information they generally use is IQ measures, one wonders whether the information produced by IQ tests adds anything of value to needs assessment.

The supraordinate agencies have a second related informational need. In contrast to needs assessments which very often can be conducted through examinations of school attendance records, age-grade placement patterns, and achievement data in the broad sense, funding agencies need to know about the effectiveness of particular programs.

Due to "accountability" and "evaluation/audit" requirements, the agencies chiefly responsible for the allocation of funds have mandated that testing be conducted at the child level as a means of collecting information which can be used to evaluate educational programs. What this leads to, unfortunately, is to place program evaluation in the politically uncomfortable position of being used to

determine funding rather than as a guide for improving the quality of programs.

In actuality, program evaluations can be made through a variety of means or procedures, none of which necessarily has anything to do with IQ or summary-score types of measures. There is some movement in this direction through criterion and domain referenced approaches (see Hively & Reynolds, 1975).

At the local level, school district personnel require information as to the needs of children and the effectiveness of individual programs in the same way as do the supraordinate agencies. However, since needs assessments are usually conducted from the state level, school officers more often than not use the state-provided information as a statement of need, preferring not to conduct detailed, expensive, in-house initiated research.

Unfortunately, the last to be considered in the educational hierarchy is the classroom teacher and what he or she needs in order to assist the learner. What can the teacher do with an IQ or collapsed score? Given that a score is an accurate index of a child's performance in a classroom, then what? Consistent with the American ideal of "individualized instruction," what a teacher is asked to do is to discriminate between scores in designing a curriculum for each and every child on the basis of information which does not discriminate in a qualitative fashion.

Numerous writers have commented on this issue. For example, Dyer (1971) has remarked, "most consumers of achievement test results . . . seem to be amazingly unaware of the limitations of such data. . . . Both the IQ and grade equivalency scores are psychological and statistical monstrosities." The point is that the teacher, who is ultimately the person held "accountable," is simply not being provided with enough information upon which to base sound daily educational decisions. The teacher is thus by default forced to make arbitrary decisions which in many cases cannot be defended.

To summarize, we have been arguing that the use of IQ or any other tests which use collapsed scores for purposes of identifying special needs is totally inappropriate for minority children, particularly for children from non-English speaking homes. The linguistic and cultural differences which set the non-English speaking apart from mainstream children are ignored. Moreover, we have argued that tests which use collapsed scores are of limited utility for all children since they provide precious little in the way of substantive direction with respect to the educational needs of students. Finally, by implication we have argued that the problems associated with current approaches to the identification of children with special needs are of such nature as to be inconsistent with mainstreaming as a viable process for dealing with children who require special educational attention.

In the closing section of this discussion, we will describe an alternative approach which we have been exploring for the past few years. The position taken here, in contrast to the psychometric approach, would propose, in agreement with Piaget, that the determination of intelligence and by extension eligibility for special treatment must be studied through the examination of intraindividual rather than interindividual approaches. From this view, intellectual development is characterized by the extent of internal control of functioning versus external control of functioning at any given stage of development.

Maintaining Differences While Mainstreaming

With the understanding that testing procedures must distinguish between external-environmental and internal-developmental variables, the determination of a subject's intellectual development thus becomes a two-step process. In the first step it is necessary to remove the effects of external factors before testing the subject. The second step involves a determination of the extent of internal control through the use of tasks which vary in the degree of control required to produce a correct response.

Pascual-Leone and Smith (1969) have argued that the use of an "experimental repertoire control (ERC)" provides for the control of external variables which can reflect diverse experiential and stylistic differences rather than differences in intellectual capacity or internal control of functioning. The application of a controlled repertoire in which subject differences are removed through pretraining procedures has been attempted by Pascual-Leone & Smith (1969), Pascual-Leone (1970) and DeAvila and Havassy (1974). An essential feature of Pascual-Leone's procedures is that prior learning is used as a control variable rather than as a dependent variable (see Pascual-Leone & Smith, 1969). Using prior learning as a control, Pascual-Leone has found highly stable results across a number of Piagetian tasks.

In a study by the author (DeAvila, 1971) using upper middle class children, it was noted that when the background of the subjects was controlled through the use of experimental control tasks, low correlations were found between a standardized intelligence test (the Otis-Lennon), and a number of Piagetian tasks. Such results imply that the IQ measure may be highly related to external variables such as educational and social background. Moreover, these findings suggest that when these factors are controlled through pretraining, IQ ceases to be a predictor of intellectual development. Recent replication of this finding with low socioeconomic subjects has lent support to our position. Over the past 5 years we have conducted several large scale studies directed toward this purpose as well as toward examining the validity and utility of a neo-Piagetian approach to the assessment of children from non-English speaking homes.

In one study, approximately 1,300 Mexican American and Anglo-American children from four southwestern states were tested using standardized tests of school achievement, intelligence tests and several Piagetian-derived measures (DeAvila & Havassy, 1974; DeAvila, Havassy, & Pascual-Leone, 1976). The major purposes of the research were to test the interrelations among a number of neo-Piagetian measures in a Mexican American sample which varied in geography and SES and to examine the relation between developmental level as assessed by the neo-Piagetian procedures in contrast to IQ and achievement as assessed by standardized measures.

With respect to the present discussion, the most important results of this study have shown that there are populations of Mexican and Anglo-American children who are equal with respect to cognitive development according to Piagetian theory but are not equal in school-related

achievement. This finding implies that cognitive development in Mexican American children, and perhaps other children, is not in itself a sufficient condition to engender a level of school achievement equal to that of middle class Anglo American children.

The failure to find differences between Anglo and Mexican American children on the neo-Piagetian measures leads us to adopt the position that Mexican American children develop cognitively in the same way and at basically the same rates as do Anglo American children. However, the failure of Mexican American children to achieve in schools and to perform well on capacity and achievement measures must be attributed to reasons other than a presumed lack of cognitive ability in the Mexican American child since our data show no such inability. Some of the reasons for failure are to be found in traditional tests and curriculums used throughout the schools. The materials, language, and situational context utilized both in testing and in curriculums are culturally biased in favor of Anglo-American middle class culture and children who do not share that culture are at a disadvantage in such situations.

These conclusions taken in conjunction with previous comments on the limited validity and utility of other approaches to testing have led recent work in two directions. The first has already been described and we are continuing to refine our instrumentation and procedures. Secondly, we have taken several Piagetian instruments as a basis for the development of a diagnostic/prescriptive procedure (Program Assessment/Pupil Instruction—PAPI). This procedure uses a computer program in which the Piagetian-based measures are the basis for generating suitable information required by the three previously mentioned levels of organization within the educational system.

The first two types of information provided by the system are statistical in nature and are meant for program evaluation at the funding, administrative, and district levels. The third type of information is oriented towards the needs of the teacher and consists of recommended activities specifically designed for each child in the classroom. The three types of information are described below. Psychometric information on each test is produced as a means for assuring that the tests used in any given case have satisfactory levels of reliability and validity. This information is of primary importance to the researcher or program evaluator as a check against various problems associated with test administration, sampling procedures, and so on.

The PAPI System

Information produced by the PAPI system can be described as developmental-normative. These data provide normative information regarding the current development levels of the entire sample. Moreover, these data can also be stored to serve as baseline data which can be compared across temporal (as in a pre/post design) or situational/program dimensions.

The PAPI system generates information which consists of recommended classroom activities for each child. These activities are geared to providing children with experience in specific educational activities thought to be important in intellectual development as well as in more school-defined educational program objectives. The total operation of the PAPI system may be observed in a seven-step schematic illustration (Figure 1).

In generating suggested classroom activities for each child, four factors are taken into account along with nominal information bearing on the child's linguistic, ethnic and SES background:

1. The child's achievement level with respect to specific concepts measured (e.g., mathematical operations).
2. The child's developmental level, as a result of a neo-Piagetian analysis of the child's performance on Piagetian tasks (e.g., conservation of number, substance, etc.).
3. The achievement level of the child's referent group with respect to the same concepts measured in testing the individual child.
4. The average developmental level of the child's referent group measured according to the Piagetian constructs.

A student activity sheet (see Figure 2) is provided to the teacher for each child tested. Each sheet contains a synoptic description of the performance of the child in comparison to the child's peers. Insofar as the PAPI program is general, a peer group may be defined by any number of nominal descriptors such as sex, ethnicity, age, grade classroom, or the like. In the example provided, the fictitious subject's performance was compared to other children within the same classroom. As can be observed, the performance of the example child indicates an element of underachievement insofar as developmental level seemed to exceed achievement level even though achievement was comparable to her classmates.

By taking into account the above described variables it is possible to identify a number of concepts and corresponding activities which are consonant both with the child's level of development and achievement. As indicated on the sample activity sheet there are four recommended activities per student. These activities have been selected to encompass a variety of concepts found to underlie a wide variety of science and mathematics curriculums. Within the broad areas of science and mathematics, each activity is recommended as a means for enriching or extending the child's repertoire of experience. Thus, on the basis of the child's level of development and achievement, the prescribed activities have the intended purpose of extending the child's repertoire in a manner which is consistent with Piaget's notion of the "horizontal decalage." In other words, no direct attempt is made to elevate the developmental level of the child in the Piagetian sense. This approach may be contrasted with a variety of attempts to accelerate movement through the stages by direct training on the Piagetian tasks.

While no direct attempt is made to accelerate the child's movement through the Piagetian stages, each set of four activities is organized in hierarchical fashion with the first being the simplest and the fourth being the most complex. The system is organized in such a way as to be totally individualized. A child may go through the total of 128 activities at his or her own rate. The likelihood that a child will have difficulty with the first activity in the set and require a drop back to a simpler level appears improbable, since a review of the performance of over 6,000 children indicates that the developmental estimate provided by the Piagetian test seems to be on the conservative side (see DeAvila & Pulos, Note 3). The activities recommended seem well within the abilities of groups of children at the

PAPI System

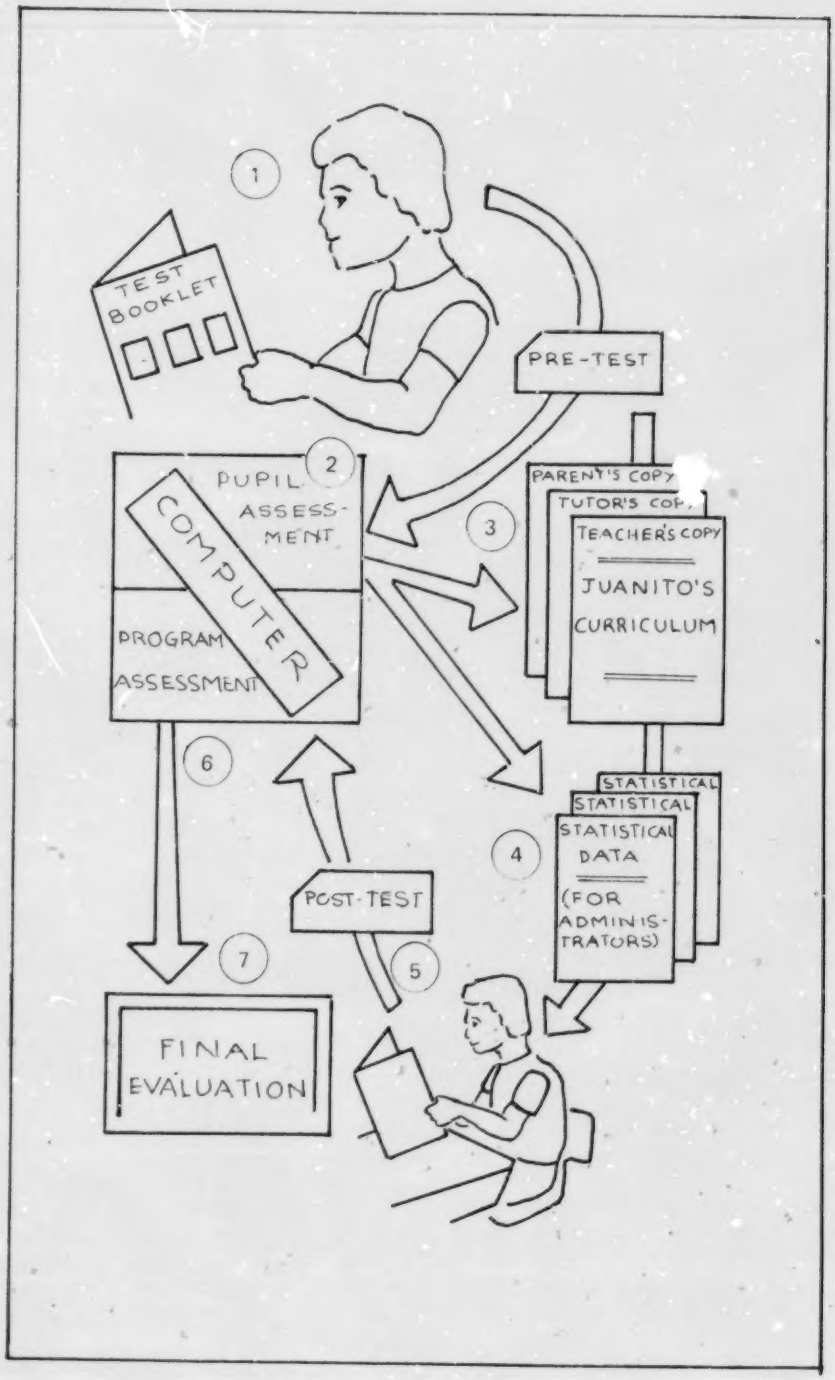

Figure 1. The PAPI System Operation

various developmental levels as supported both by Piagetian theory and empirical evidence.

The approach to conceptual development embedded in the PAPI cuts across a wide variety of curriculum fare. In an attempt to ensure that the child's understanding of each concept is not bound to the concrete example or activity, each activity prescription is made up of four elements. First, a statement of the intended purpose or objective for the activity is provided so that the teacher is fully cognizant of the underlying structure or concept embodied in the activity. Secondly, the teacher is provided with a list of required supplies. Thirdly, a description of how the activity is to be performed is provided the user. Finally, and perhaps most importantly, the teacher is encouraged to give the child a "concept test" wherein the child's understanding of the concept underlying the activity is examined in a context removed from the initial situation described in the recommended activity.

The final success of each activity is examined in a test of transfer in which the child is asked to generalize what has been learned to a new situation. In fact, an activity is not considered successful until the child is able to generalize the concept in a novel setting.

In addition to the four elements which make up the PAPI activities each student sheet contains a progress chart which is used to monitor the child's progress through the activities. The progress chart has an intended purpose over and beyond a child monitoring function which may be appropriately described as a program monitoring function. As the progress chart is completed for large numbers of students we will provide information on the efficiency of each activity. Those activities which prove to be troublesome can then be replaced or elaborated upon in a way which is consistent with child-teacher experiences. The progress chart thus serves both summative and formative functions in program development and implementation.

In addition to specifying activities and recording progress, the chart provides a vocabulary list. The purpose of the vocabulary list is to enrich the language of students within the context of the activities provided. Researchers as well as practitioners have found that the acquisition of vocabulary and indeed all language is enhanced by the meaningfulness of the context in which the material is presented. In conjunction with these activities a vocabulary is provided in both English and Spanish. Insofar as the fictitious student represents one who speaks Spanish and English, vocabulary items are provided in both languages. As can be seen in the lower section of the chart the language preference is stated. The testing situation represents one in which the children's performance can be enhanced through code switching or language mixing as necessary to facilitate performance. A report of how the test took place is provided.

The activities and concepts covered in the PAPI system can be found in a wide variety of other materials and approaches. The important difference in the PAPI system is that these concepts and activities have been organized in a practical fashion while being tied to assessment.

Over and beyond the student activities sheet, each teacher is provided with a summary sheet describing the performance of the class as a whole in relation to a number of nominal descriptors such as national norms, performance of children of similar ethnic backgrounds, and so on. The teacher summary sheet also provides a list of those children who have similar developmental-achievement-linguistic profiles, in order to facilitate their progress through the PAPI system.

While the above described student and teacher summary sheets tend to be qualitative in nature, more quantitative information is stored which can be analyzed and provided in a wide variety of ways.

Summary

Several arguments were advanced which were critical of many of the current approaches to mainstream testing. These approaches, it is believed, fall radically short of what is ultimately needed both in relation to the validity of the procedures as well as to their practical utility. The consideration of the paradoxical nature of these limitations led to a review of our current attempts to develop an assessment system built on the theories of Piaget without limiting itself to a purely one-to-one clinical-experimental setting. Finally, the PAPI information system was described as an attempt to provide a new direction which meets the simultaneous needs of administrators and classroom personnel, while remaining sensitive to the special needs of ethnically and linguistically different children who might be treated within a mainstream setting.

FIGURE 2. Student Activity—PAPI Prescription

EXPERIMENTAL VERSION—NOT FOR DISTRIBUTION

THE TEST SCORES INDICATE THAT WHILE THIS CHILD IS DOING WELL IN REGARD TO HIS/HER PEERS S/HE SHOULD BE ABLE TO DO MUCH BETTER. THE FOLLOWING SUGGESTED ACTIVITIES SHOULD BE WELL WITHIN HER/HIS GRASP.

STUDENTS NAME:

CONCEPTION SCHWARTZ

OBJECTIVE:	The child can sort on two attributes and place objects in sets on the basis of a specific common property.
WHAT DO YOU NEED:	A set of cardboard shapes all the same color: 2 small circles, 2 large circles, 2 small squares, 2 large squares. A set of cardboard shapes all the same color: 2 large flowers, 2 large houses, 2 small houses.
HOW DO YOU DO IT:	(A) give the child the shapes and ask the child to make two piles of all things that "belong together." (B) make boxes with yarn around the piles and ask him/her to name the piles.
CONCEPT TEST:	Can child sort the flowers and houses into sets? "How are these sets different." (Mix shapes up again.) "Put all the things that belong together in separate piles."
OBJECTIVE:	The child can sort on three attributes and place objects in sets on the basis of a specific common property.
WHAT YOU NEED	A set of cardboard shapes: 2 small blue circles, 2 small red circles, 2 large blue circles, 2 large red circles, 2 small blue squares, 2 small red squares, 2 large blue squares, 2 large red squares.
HOW TO DO IT:	(A) ask the child to make two piles of all the things that "belong together." Make pens or boxes around the piles and ask him to name the piles. (B) mix up the shapes and go through the procedure two more times, or until all the attributes are discovered.
CONCEPT TEST:	When given a group of objects with two attributes, can child sort in 2 subsets? "Tell me how these piles are different" (mix up shapes) "put all the things that belong together into separate piles."
OBJECTIVE:	Child can sort for two physical attributes and place objects in sets on the basis of a specific common property.
WHAT YOU NEED:	A set of strips of paper, all the same color: 2 long strips sandpaper, 2 short strips sandpaper, 2 long strips smooth paper, 2 short strips smooth paper.
HOW TO DO IT:	(A) ask the child to make two piles of all the things that belong together. (B) make boxes with yarn around the piles and ask him/her to name the piles.
CONCEPT TEST:	Can the child sort a series of long/short black/white objects into sets? "Tell me how these sets are different." (Mix up shapes again.) "Put all the things that belong together in separate piles."
OBJECTIVE:	Child can sort for three attributes and place objects in sets on the basis of a specific common physical property.
WHAT YOU NEED:	A set of pieces of paper: 2 brown sandpaper circles, 2 red sandpaper circles, 2 brown smooth circles, 2 red smooth circles, 2 brown sandpaper squares, 2 red sandpaper squares, 2 brown smooth squares, 2 red smooth squares.
HOW TO DO IT:	(A) Ask the child to make two piles of all the things that "belong together." (B) Make pens or boxes around the piles and ask him to name the piles. (C) Mix up the pieces of paper and go through the procedure two more times or until all the attributes (color, texture, shape) are discovered.
CONCEPT TEST:	When given a group of objects with three attributes of color, texture, and shape, can child sort into 3 subsets? "Tell me how these piles are different?" (mix up pieces) "put all the things that belong together into separate piles."

PROGRESS CHART

Acty.	Concept	Voc.	Date	P	F
1					
2					
3					
4					

VOCABULARY F/P

1. More (than) mas (que)
2. Less (than) manos (que)
3. Belong/pertenece
4. Fewest/Menos
5. Most/Mas
6. As many as/Tanto como
7. Equal/Igual
8. Unequal/Desigual
9. Big/Grande
10. Small/Pequeno
11. Amount/Cantidad
12.
13.
14.
15.

CROSS REFERENCES
1. Piaget
2. Other text
3. State Guidelines

ACCURACY OF EVALUATION
1 2 3 4 5 6 7

LANGUAGE REFERENCE:
Spanish/English mixed.
For a child of this type it will be necessary to use both languages during instruction.

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Notes

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2. E. A. DeAvila, "The Integration of Non-verbal Syntactical Rules as a Function of Processing Capacity in Young Children." (Doctoral dissertation, York University, 1971).
3. E. A. DeAvila, and S. M. Pulos, A Piagetian-based Group Administered Test of Developmental Level: The Cartoon Conservation Scales. (Manuscript submitted for publication, 1976).

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Educating An Ethnically Diverse Population

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Providing equal educational opportunities to children of diverse backgrounds is one of the major goals of contemporary American educators. In this paper I discuss some of the problems facing social scientists, practitioners, and policy makers as they seek to adapt the public schools to the needs and demands of increasingly vocal and politically influential racial and ethnic constituencies.

One of the unresolved issues is the proper role of the schools in the socialization of Afro-American, Mexican American, Native American, Asian American, European-American, and mainland Puerto Rican children. Traditionally, the emphasis has been on assimilation; the role of the school was to acculturate children by eliminating cultural distinctiveness. The rationale for this assimilationist stance was that the elimination of cultural differences, especially language differences, would make it possible for the children to blend into the dominant society with a minimum of difficulty. The schools functioned as if the "melting pot" myth actually expressed the reality of ethnic group experience in America. The existence of unassimilated racial and ethnic groups, often living in ethnically homogeneous neighborhoods, ghettos, or barrios, did not deter the public schools from the path of prescribing a monocultural curriculum.

The monocultural focus, perhaps gaining renewed vigor from the "Americanization" fever which swept the country after World War I, was based on an Anglo-conformity view of the melting pot, which emphasized the desirability of maintaining the English language and English oriented cultural patterns in a position of dominance. It is now obvious that what developed was a mass system of public indoctrination. This narrow focus has made it extremely difficult for the children of recent immigrants and powerless racial and ethnic minorities to acquire the quality and quantity of education required for successful competition in the occupational system of an urbanized, highly technological society.

Perhaps the most important feature of the life-styles of Americans in the 1970s is the resurgence of ethnic awareness. The militant demands for Black Power during the 1960s were followed by demands for Chicano Power and power to other oppressed groups. European ethnic groups have now joined the "visible" ethnics in asserting pride in their heritage and making demands on public schools for inclusion and recognition.

This militant ethnicity has caused a number of apparently revolutionary changes in the way members of minority groups view themselves. They are no longer willing to accept the dominant group's conception of themselves (it is probable that they never did accept the society's view, but social scientists were unable to see this until the urban revolution made it too obvious to ignore). The implication of militant ethnic demands upon public education seems to be that the long discussed conflict between community values and school values must now be seen in a new light. Deprivation and deficiency models are no longer deemed adequate bases for developing educational intervention programs or for training teachers and other educational personnel.

I have presented an argument in another paper for the position that one of the major problems of the non-mainstream child in the classroom is conflicting expectations. The conflict is between the values of the child's home and community and the values of the school as expressed by school personnel.[1] Becker has pointed out that professionals depend upon society to provide them with clients who meet the standards of *their image* of the ideal client. Teachers, counselors, and school social workers label as problems those children who fail to exhibit the qualities of the ideal student.[2] Educational personnel have been socialized in a system which leads them to accept as behavioral and cultural models, the patterns exhibited by the American descendants of Northern Europeans, referred to above as the Anglo-conformist model.

This type of bias led to the development of intervention programs designed to remodel children so as to make them more compatible with the professional image of the ideal pupil. In a critique of the typical intervention program, Baratz and Baratz list the following set of assumptions upon which this model is based:

> (1) that, upon entering school, the black [Chicano, Puerto Rican, Applachian] disadvantaged child is unable to learn in the educational environment;
> (2) that this inability to learn is due to inadequate mothering [socialization];
> (3) that the ghetto [lower-class] environment does not provide adequate sensory stimulation for cognitive growth.[3]

The result was often a program designed to "correct" the deficiencies perceived by the professional without regard for the child's cultural experiences. In such a setting, the "deficient" youngster received few rewards because he had none of the attributes that are customarily rewarded in American educational institutions. It might be argued, therefore, that we should not be surprised that the child feels powerless in the school situation. It would seem logical to expect his sense of inadequacy to become more intense, his anxiety in the learning situation to increase,

and his self-esteem in the classroom to decrease as he faces continued failure in school.

Conflict between community values and school values is obvious in some areas. For example, the black child often learns to view the police as enemies; the schools usually portray the policeman as friend and protector. The child who is an aggressive fighter is rewarded at home and in the community, but penalized at school. Punctuality and order are emphasized and rewarded in school, but may not be valued in the community. Finally, the language of the street may shock the middle-class teacher.

In spite of these rather obvious cultural differences, survey research usually supports the contention that children of all backgrounds internalize basic values concerning fair play, honesty, and justice. However, their sense of fair play is violated when they are punished in the school setting for behavior which is accepted and rewarded in the home or community. This conflict between home or community values and school expectations can be interpreted as one manifestation of the ethnocentrism that has become an integral part of our educational system.

The movement for community control of schools is a direct response to the perceived lack of responsiveness of schools to the values of the community and the needs of children based upon these values. The rationale for community control is that teachers and other school personnel would be more responsive to the needs of the community if they were accountable to a local school board staffed by parents and community leaders. Teachers and other professionals object to the notion of being evaluated by lay people and having their conceptions of their professional roles challenged by outsiders whose values and standards of conduct differ substantially from their own. They are also concerned about the possibility of politically motivated or capricious actions on the part of the community boards which might threaten their job security or chances for promotion.

While community pressures have resulted in widespread acceptance of the concept of "community participation," and considerable reorganization of school systems, New York and Detroit being two striking examples, community control has not been seriously attempted in most large city school systems. Most previous experiments going under the label have operated with limited control over staffing, curriculum, and expenditure of funds. As a political reform movement whose objective is to wrest power from traditional power groups and shift it to local communities and their representatives, it must be conceded that community control has not come close to realizing its major goals. On the other hand, there has been conspicuous effort directed toward attempts to accommodate some of the demands of community groups. One example of accommodation is the marked increase in the numbers of teachers and administrators and other personnel who are members of formerly excluded minority groups. While there are notable exceptions (witness the mass unemployment of black teachers and administrators in recently desegregated southern school districts), most systems with large minority school populations have responded favorably to the demand for increased employment of minority professionals.

Results of the six-year Longitudinal Study of Young Children and Their First School Experiences conducted by Virginia Shipman and her colleagues at ETS confirms and underscores a fundamental assumption often overlooked by educators and policy makers: that children from similar backgrounds exhibit wide ranges in cognitive and social skills and styles, and differ greatly in their academic achievement and ability to cope with the demands of the school as a social system. The researchers point out that no one score or composite of scores was consistently associated with high achievement among high risk children.

The results of the study strongly support the notion that cognitive, emotional, social, and physical factors affecting a child are so intertwined that only a broad, comprehensive program of services can intervene successfully to counteract the adverse effects of poverty. The authors state:

> Of primary importance was the finding that a warm, supportive home atmosphere combined with a warm supportive school setting creates an upward spiraling in the child's ability to achieve. In other words, cognitive gains are likely to be the greatest when the total ecology of the child is supported at home and in school . . .
>
> A corollary to that observation is that the quality of either parent-child or teacher-child interactions alone is generally not sufficient for modifying the deleterious effects of poverty that act upon the developing child. Rather, sustained intellecutal growth depends on the quality of relationships established between parents, teachers, and child.[4]

In response to local pressures and to federal and state legislation, most school districts have also introduced or expanded their curricular offerings to include a wide range of materials on blacks and other ethnic groups. The rationale of these programs is based upon a conception of America as a pluralistic democracy which should promote programs in its schools which will encourage the development of respect and understanding among all groups, resulting in improved intergroup relations. The major response to the demands for cultural pluralism has been the development of bilingual-bicultural programs, black studies programs, and ethnic studies programs. Proponents of these programs argue that by using the child's native language and culture in the educational process, the transition from home to school is made easier, and children are less likely to suffer from anxiety and insecurity. They are likely to develop more positive self-images, group pride, and a more positive attitude towards school, and it is hoped that cognitive achievement will also be enhanced as a result of such programs.

Cultural pluralism, as expressed in bilingual-bicultural education programs and ethnic studies programs, currently enjoys strong political support at the state and federal levels. Funds from these sources have made it possible for local districts to finance programs and staff them with specially trained personnel when they can be found. The existence of the new positions for specialists creates two kinds of demands on professional schools. First, it requires them to prepare their students for the new roles, thereby expanding the curricular offerings in undergraduate and graduate programs. Second, since most minority communities demand that the personnel in the programs be members of the groups being served, demands are made upon institutions of higher education to increase their enrollment of minority students. Both demands create problems for the institutions.

In training or preparing persons to work with minority communities in the schools, the assumptions of cultural pluralism require considerable adjustment in the focus of professional education. The teacher is expected to teach the child in his preferred mode of obtaining support, acceptance, and recognition, and provide learning experiences that utilize his preferred mode of thinking, perceiving, remembering, and problem solving. School psychologists and school social workers are also expected to learn new ways of assessing skills, diagnosing problems, and working with parents, children and teachers to provide a responsive learning environment. Since most institutions of higher education have been as ethnocentric in their focus as the public schools, the demands for new kinds of professionals challenge the collective wisdom of the academic community and especially the professional schools. I think it is fair to say that so far most of these institutions have responded with some minor adjustments that can be considered tokenism rather than a wholehearted acceptance of the goals of cultural pluralism.

Most of the responses of the public schools and the universities have been designed to reform the present system. It is assumed in these responses that cultural pluralism can be achieved without major changes in social institutions. The success of such strategies would result in minority children receiving education equivalent to that available to middle-class elite groups. Bilingual-bicultural and multicultural education are viewed in this approach as ways to making it possible for subordinate groups to move into the mainstream. The need for a mutual exchange of cultures in the school setting is frequently ignored. Advocates of reform pluralism believe that cultural democracy will be achieved only when institutional change permits children to develop ethnic pride while acquiring a high-quality education. This implies that children should develop bicultural identities that will enable them to operate effectively in both the ethnic community and the larger society.

More politically oriented advocates of pluralism propose educational alternatives that would help oppressed minorities develop a political consciousness and a knowledge of the social structure that will enable them to attain greater political and economic power. Advocates of this type of approach argue that education should take place within a framework that will encourage members of minority ethnic groups to work for political self-determination and economic progress in their own communities. To those who fear that such separatist strategies will lead to the development of vested interests, increased competition among ethnic groups, and continued social isolation, they reply that the vested interests, competition and social isolation are already in existence. The educational programs being proposed are designed to improve their relative competitive position. The goal is to change institutional structures so that racism and its effects will be eliminated from American society. Attempts to move beyond reform to institutional change in educational institutions have been generally left to groups working outside of the structure of public education. Some of these are described in a recent article in *Social Policy* by Bruce Dollar and Marilyn Gittell.[5] The focus in some of these schools is nationalistic and even separatist, but the goal of self-determination requires a certain amount of autonomy. As with all alternative schools which seek to operate outside the public schools, financial problems threaten almost all such endeavors. Even those which utilize federal funds to serve native Americans are subject to the whims of federal officials and may be threatened by a change of administration.

One issue of concern to ethnic communities is the extent to which educational achievement and economic adaptation of "successful" minority group members results in alienation from their cultural heritage. Kopan, discussing the maintenance of ethnic identity among European immigrants and their descendants, points out that even after several generations of living in America, ethnic patterns are still strong among Poles, Italians, Irish, and other European Americans.[6] Four major factors are thought to have contributed to the maintenance of ethnic identification: (1) prejudice and discrimination against these groups expressed by older immigrants; (2) pressure by ethnic religious and cultural leaders to remain loyal to their religion, language, customs, and traditions; (3) political expediency resulting in solidarity as a means to improve social position; (4) third and fourth generation tendencies to seek out their roots and reclaim their identity.

A recent review of research on Mexican Americans suggests that as they became aware of prejudice and discrimination against them, upwardly mobile middle-class persons tended to identify more strongly with and interact more with members of their own ethnic group.[7] It was also reported that for a number of mobile persons, a traditional loyalty to family remains so strong that it moderates the mobility. One of the studies reviewed concluded that:

> Mexican Americans' upward mobility, at least in a moderated form, is not inconsistent with their ethnic identity. Adjustments in career choices, though they bring higher incomes and more interaction with Anglos, also are made in the interest of maintaining ethnic ties. Thus, assimilation is not necessarily the end of the road for those seeking a higher social status.[8]

Educational decision-making has been typically a middle-class activity. Board members, professional educators, and the business and political leaders who have dominated policy making usually expect schools to reinforce and reward middle-class values and life-styles. They are unlikely to be sympathetic to proposals that will reward a different set of values or different life-styles. However, it is this very focus on middle-class values and styles, exacerbated by low expectations, that causes the lower-class child to experience failure and to develop negative attitudes about school which result in alienation and subsequent loss of motivation. If schools are to become effective learning environments for all children, we must have educational leaders who will function as child advocates who can persuade school boards and educational administrators that change is necessary and inevitable.

All bureaucratic institutions resist change. School systems are no exception. Any radically different program, no matter how effective, will be viewed as a threat by some segment of the educational hierarchy. What is at stake are professional reputations, promotions, salaries, jobs, power. Change is most palatable when it is presented in a package which includes improving potential gains for everyone. However, more often than not, improving the quality of education for minority children is perceived by

Anglo-whites as an exchange in which blacks or other minorities gain while middle-class whites lose. Educational policy makers must be persuaded that American society cannot afford an educational system that fails to educate a large segment of the urban population.

Of course, this implies that one of the necessary conditions for developing effective schools is a shift in the priorities of policy makers. This requires an increased political sophistication on the part of all of us who are concerned about the effectiveness of public schools.

Increasingly, programmatic changes in public schools have resulted from federal and state initiatives rather than the efforts of local school boards. I think it is reasonably accurate to state that most of the innovative programs throughout the country have been stimulated by federal funds. Since local boards too often find themselves overwhelmingly concerned with maintaining the status quo, placating various factions, serving the interests of local businesses and the most powerful political groups, there is a need for minority educators to become more effective political advocates at the state and federal levels. What kind of impact can we have on the federal and state legislation that is becoming such an integral part of urban education funding and planning? This is a question which should be high on the political agenda of all minority educators and other concerned policy makers.

Concluding Statement

While there is agreement that minority group children are being miseducated today as in the past, there are two ways of defining this miseducation. One type of miseducation is manifested in the European bias that permeates almost all educational theory and practice. A second type of miseducation occurs through the failure of the schools to prepare minority group children and youth for successful competition in an urbanized technological society.

Appropriate education for all children requires the elimination of both types of miseducation. On the one hand, there is a need for programs that use the cultural context of the ethnic experience to determine values, goals and content of education. On the other hand, there is a need for improved curricula, better teaching, and equitable allocation of resources. These need not be conflicting goals, one leading to separatism, the other to integration. Effective education uses a pluralistic approach to education. The goals of pluralistic education include: (1) acceptance of and respect for diverse peoples; (2) self-acceptance and pride in one's heritage; (3) acquisition of knowledge and skills needed for community development. The community and the school (from preschool through the university), should be a single entity working together to achieve common goals. This means that schools must be responsive to the diversity in American society. In biracial schools or multiethnic schools, it is necessary to assure all groups that they will have a voice in school affairs, and that their values and customs will be respected. The goal of quality education should be more readily attainable if the values of the school and the community are not in conflict.

We must also keep in mind that at times the self-interests of different ethnic groups can bring them into conflict with respect to educational policies. A current example is the frequent disagreement between Blacks and Hispanics with respect to school desegregation.[9] Concentration in the interest of strengthening bilingual programs sometimes makes simplistic solutions to pupil transfer components of desegregation plans impossible. Resolutions of these kinds of conflicts will require the good will as well as the educational know-how of all groups involved.

There are a number of other issues that remain to be examined. One of these is the need for competent research on the learning process and ethnicity. I hope my colleagues will join me in exploring the possibilities and problems associated with the current interest in cultural pluralism. The basic research in this area remains to be done. We have almost no empirical evidence bearing on the effectiveness of ethnic studies programs, bilingual-bicultural programs, and other responses to the current wave of enthusiasm.

The Committee on Basic Research in Education of the National Research Council raises a number of pertinent questions that should be addressed by fundamental research:

> 1. What are the cognitive advantages or disadvantages of children learning two or more languages? Our knowledge of the process of second-language acquisition is woefully inadequate.
> 2. In what manner, if any, does mastering one language aid or impede the learning of subsequent languages?
> 3. Does mastery of a second language—or dialect—alter the rate or character of children's intellectual development (positively or negatively)?
> 4. How do children of different ages conceptualize race, ethnicity, social class, bilingualism, poverty? The work of Phyllis Katz and her associates, and that of Margaret Spencer could provide guides for researchers interested in these kinds of questions.[10]
> 5. Do curriculum materials and textbooks dealing with cultural differences adequately allow for children's developing ability to view behavior from another's perspective?
> 6. To what extent do children in this society experience different cultural settings?
> 7. How do children understand history? For example, when they see a depiction of slavery on TV, can they put themselves back in time to see how it might have happened?
> 8. Do ethnically oriented materials help to dispel myths and stereotypes about such groups as Native Americans, Mexican Americans, Puerto Ricans, Asians, and Blacks?

Obviously these are questions that cannot be answered on the basis of short-term results from poorly conceived evaluation studies. Soundly conceived, discipline based, theoretically grounded research will be required before we can begin to come up with the kinds of answers needed to intelligently inform educational policy.

Policy makers have moved ahead, as they often do, on the basis of minority demands that may or may not be good for children, but are certain to get votes. It is now time (before we move on to a new fad) to assess the consequences of the policies currently being implemented in response to the popular demand for a pluralistic educational system.

1. Edgar G. Epps, "The Problem of Expectancies: Teachers, Parents, and Children." (Unpublished paper, The University of Chicago, 1971).
2. Howard S. Becker, "Social Class Variations in the Teacher-Pupil Relationship," *Journal of Educational Sociology* 25 (1952): 451-65.

3. S. Baratz and J. Baratz, "Early Childhood Intervention: The Social Science Basis of Institutional Racism," *Harvard Educational Review* 40 (1970): 29-50.
4. "Children of Poverty: Overcoming the Barriers," Digest of a report by Virginia Shipman, et al. *Disadvantaged Children and Their First School Experiences: Notable Early Characteristics of High and Low Achieving Black Low SES Children*. ETS Report (76-21), 1976.
5. "Cultural Pluralism in Higher Education," *Social Policy* 5 (1974): 38-45
6. Andrew Kopan, "Melting Pot: Myth or Reality?" In E. Epps, *Cultural Pluralism* (Berkeley, Calif.: McCutchan, 1974), p. 50.
7. *Research Review of Equal Education* 1 (Spring 1977).
8. Ibid., p. 11.
9. For a discussion of desegregation related concerns of the Hispanic communtiy see: *Desegregation and Education Concerns of the Hispanic Community: Conference Report*, June 26-28, 1977. (Washington, D.C.: National Institute of Education, 1977).
10. See, for example: Phyllis A. Katz, Ed., *Towards the Elimination of Racism* (Elmsford, N.Y.: Pergamon, 1976), Chap. 4; and Margaret E.B. Spencer, "The Social-Cognitive and Personality Development of the Black Preschool Child: An Exploratory Study of Developmental Process." (Doctoral dissertation, The University of Chicago, 1976).

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